

**First and Second Language Interference on Third Language Learning: Historical
Development of Concepts from a Psycholinguistic Perspective**

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Licenciatura en Bilingüismo con énfasis en Inglés

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**Trabajo de grado como requisito para optar al título de Licenciado en Bilingüismo
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Abstract

This research aims to provide a comprehensive historical overview of the concepts and theories that contribute to the explanation on how first and second language learning might interfere in third language learning from a psycholinguistic perspective. Besides the aforementioned, this paper offers a solid picture of the elements involved in the topic and their respective categorization to lead to substantial conclusions on the field to state clear differences among L1, L2 and L3 learning processes of late-sequential-additive bilingualism in adults, from a psycholinguistic perspective.

It is carried out by means of the implementation of a series of bibliographical research strategies to select, categorize, and present the different literature resources found by analyzing the content and their conclusions, compiling it into one single document.

After the exhaustive revision of the literature, it can be stated that L3 and L2/L1 learning processes share some linguistic and metacognitive similarities. Nonetheless, it is important to recognize that according to different models they can be understood as individual systems including some phenomena as: interlanguage, interlinguistic transfer, language errors and transfer models that are here explained.

Keywords: third language acquisition, multilingualism, interlanguage, language interference, language transfer models.

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Resumen

Este trabajo investigativo tiene como objetivo ofrecer una revisión histórica de los conceptos y teorías que contribuyen a la explicación de cómo el aprendizaje de una primera (L1) y/o segunda lengua (L2) puede interferir en el aprendizaje de una tercera lengua. Además de esto, este documento ofrece una imagen sólida de los elementos involucrados en este campo de investigación y su respectiva categorización para llegar a ofrecer conclusiones sustanciales en el campo con el fin de establecer diferencias claras entre los procesos de aprendizaje de L1s, L2s y L3 el caso de el bilingüismo tardío aditivo secuencial en adultos a partir de una perspectiva psicolingüística.

El proceso se lleva a cabo implementando una serie de estrategias de investigación bibliográfica para seleccionar, categorizar y presentar los diferentes recursos de la literatura encontrados por medio de un análisis de su contenido y conclusiones, compilándolos finalmente en un solo documento.

Luego de una exhaustiva revisión de la literatura, se puede afirmar que los procesos de aprendizaje de L3s L2s/L1s comparten ciertas similitudes a nivel lingüístico y meta cognitivo. Sin embargo, también es importante reconocer que de acuerdo a distintos modelos estos procesos se pueden entender como sistemas individuales incluyendo los siguientes fenómenos: interlenguaje, transferencia interlingüística, errores lingüísticos y modelos de transferencia que aquí se detallan.

Palabras clave: aprendizaje de terceras lenguas, multilingüismo, interlenguaje, interferencia lingüística, modelos de transferencia lingüística.

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Amicitiae nostrae memoriam spero sempiternam fore...

Ab imo pectore.

**Juan Esteban Gallego Cano
Valentina Bedoya**

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Introduction

The increasing number of people learning a second, and a third language in the current globalized world, is a growing tendency that needs to be studied in detail, to understand the multiple phenomena that happens when a person knows more than two languages. Though during last decades, linguistic studies have given special attention to first language acquisition and second language learning, third language (L3) learning has not been always on the spot as a central study issue. This means that the research carried out in third language (L3) learning is scarce when compared with second language (L2) learning research. Research tradition in language learning has mainly focused on first language (L1) acquisition, and second language (L2) learning, but little attention has been given to third language (L3) learning phenomenon. For this reason, this monograph is intended to understand this problem. This is done from two perspectives; first from a historical and then a psycholinguistic point of view. This involves a profound understanding of the metalinguistic processes that affect L3 learning not only at the theoretical level, but also at the pragmatic level.

Human beings have extraordinary abilities such as learning multiple languages, in this sense, it is not difficult to find people who speak several languages and switch them in one single conversation with incredible ease. Multilingualism is, with no doubt, a common trait for many people around the globe who are learning a second, a third or even more additional languages for knowing different linguistic codes. It is even more important now than before, not only for work, business, travelling and the academia, but also for globalization itself.

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Bilinguals, in each corner of the world, perceive that their mother tongue plus the second language they speak seem not to be sufficient in today's conditions. For this reason, greater groups of persons are more interested in learning a third or additional language for different reasons: to access wider and better information sources, to apply to better job and education opportunities in different parts of the world, for personal growth reasons, and geographical approximations such as in Europe and certain countries in Africa such as South Africa and Central African Republic.

Responding to the necessity people have regarding learning third and/or additional languages, scholars have carried out some research studies on understanding this phenomenon from a general point of view including factors affecting non-native language influence, elements that can be transferred from one language to another, and the multilingual lexicon, among others. On the other hand, scholars have, as well, studied the influence of L2 on the process of learning third languages as part of the multilingualism processes, not as much as L1 acquisition or L2 learning.

Evidence shows that L3 learning process is different from L2, for learners can rely on different previously learned languages (De Angelis, 2007; Falk, 2011). While in L2, learners can rely only on one linguistic code: their mother tongue. Inevitably, this shows how L2 learning is different, when compared with L3 learning, and the unfavourable situation in which L2 learners are in front of L3 learners. Concerning this initial consideration, it is worth mentioning, among others, the studies carried out by Lado (1957) on linguistic transfer, Selinker (1972) on second language interference, Richards (1974) on language errors, Corder (1981) on interlanguage, and the studies

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carried out by Saville-Troike (2006) and De Angelis (2007) on a general understanding of multilingualism.

Some studies have been carried out in the field, as it is the case of Pinto and Carvalhosa (2012) who present Cross-Linguistic Influence in Third Language Acquisition: The case of Portuguese as a Third Language in Serbian Students. This research study was implemented on a group of thirty-seven university students taking Portuguese as a third language. The findings of this study revealed that content words were the most affected by cross-linguistic influence from previously learnt languages; additionally, the results point out that a significant interference influence came from the most familiar language to Portuguese known by the students, which was Spanish, due to the similarity shared on vocabulary, and verb tenses shared by both languages.

Another study made into cross-linguistic influence in third language learning is Inter- and Intra-lingual Interference Effects in Learning a Third Language by Joshua et al (1981). It is an article attempting to assess the linguistic interference on Nigerian college students learning French, having Igbo and English as previously learned languages. The most notable finding in this study showed that the potential interference increases with the number of languages known by a student and it is also affected by the level of proficiency, as the more proficient a student was, the less interference and errors were evidenced.

In the local Colombian context, a study conducted in our area of interest is Interferencia Lingüística en el Aprendizaje Simultáneo de Varias lenguas Extranjeras, carried out by Buitrago et al (2011). A study that aimed to determine whether or not linguistic interference could be evidenced in the writing skill on modern languages

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students from Universidad de Caldas from Manizales who were attempting to learn several languages simultaneously (among those English, French, Italian, and German) by combining written tests and interviews to the students. The results of the studies concluded that: one-hundred percent (100%) of the interviewed students claimed to experience linguistic interference between two or more languages in vocabulary, connectors and grammatical categories; additionally the findings showed that the language to cause interference most often was French, followed by Italian, and English as L3s and L4s.

Regardless of the findings of the aforementioned studies, further research into linguistic interference in third language learning is still needed as the demand for proficiency in several languages continues to increase. Furthermore, as much as the literature in second language acquisition is vast, there being thousands of articles, journals, and books in the matter, such seems not to be the parallel case for third language learning; in spite of the existence of some research, there is still a gap in the impact that both L2 and L1 have on learning a third language from the perspective of interference, language errors and psycholinguistic approaches.

The aim of this monograph is to introduce, and compile the research information (theory, concepts, constructs, studies, and research results) that exists around third language (L3) learning to serve as an organized second-hand instrument for further research on this field in Colombia where L3 learning research is particularly little and in need.

This monograph results in a relevant project for it will constitute a solid reference source that presents L3 learning components systematically and with a clear research

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objective stated: to systematize the phenomenon of second and first language

interference on third language learning from a psycholinguistic perspective. It will contribute to the understanding of this phenomenon on the field of L3 learning regarding the influence that L2 syntactic interference has on additional languages of late-sequential-additive bilingualism in adults. Researchers can take advantage of this monograph as a resource to clarify their theoretical doubts and propose better studies. Following this trend, this monograph seeks to understand L3 learning interference from an eclectic perspective.

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Objectives

General objective

- To systematize the phenomenon of second and first language interference on third language learning from a psycholinguistic perspective.

Specific objectives

The specific objectives of this monograph were identified to be:

- To provide a comprehensive and historical overview of concepts and theories on the field of study.
- To offer a solid picture of each of the constructs exposed by means of an exhaustive definition and categorization of their constitutive elements (concepts and theories)
- To offer a series of solid conclusions on the field from comparative analysis of the most prominent research studies, theories or models.
- To establish the similarities and differences existing among L1, L2 and L3 learning at the metacognitive level from a historical revision of the concepts and theories.

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Methodology

Carrying out a compilation monograph, as it is the present document, in which the contents that have already been exposed by a series of different authors within different approaches and by means of different manners, such as studies, articles, research summaries etc., implies the integration of a series of different strategies to select, categorize, organize and present the information in a critical manner in which the readers can understand the topic and have a general idea of it from the analysis of the chosen resources. The present methodology is designed based on the work of Abreu (2004) and Martins (1987) taking their general advices on writing monographs.

The first stage had to do with the selection of a relevant topic that may have a significant impact on the field of Applied Linguistics, in this case the interference of a second language and first language on third language. Having stated the topic and its justification, the following step was to set the scope of the work. This means to have a clear picture of the intention of the paper, in terms of its purpose which was to construct a solid document to serve as an initial stage for future research from a historical and psycholinguistic perspective. Within this section, an initial approximation to the topic was carried out, to determine the main elements to include such as titles, subtitles, constructs, and sub constructs. This helped the authors determine the logic order of presentation and the selection of a central idea.

The second stage was to access different online catalogs worldwide and specialized journals indexes that may store publications on the field of the monograph, as well as, the revision of the reference sections in each of the documents found to broaden the number of sources available and make connections among them. This

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stage is named bibliographical research. The main literature interest was on academic publications within these types: research papers, case reports or studies, article reviews, dissertations, monographs, institutional reports, introduction book series, and scientific dissemination series. All the bibliographical documents to be included in this research needed to be framed within the following keywords without any care on the format of the document: third language acquisition, third language learning, linguistic interference, linguistic transfer, second language learning, linguistic metacognition, and multilingualism. All documents pertaining to a time frame between 1960s and 2010s.

This stage implied the categorization of each of the found resources within different categories as follows:

1. Primary sources or first-hand information sources. These sources serve to get to know the author's own account on a specific topic or event that he participated in. This category includes: empirical scholarly works such as research articles, case studies and dissertations.
2. Secondary sources or second-hand information sources. The purpose of these sources is to describe, discuss, interpret, comment upon, analyze, evaluate, summarize and process primary sources. The following sources belong to this category: textbooks, introductory books, dissertations, journal articles that comment on or analyze research, and monographs.

In this sense, to include any source, the following characteristics and criteria were evaluated to determine their validity, and usefulness to include or exclude them:

- The author or authors, in the sense of their background and academic preparation in the field.

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- The date of publication: the resources must be as recent as possible.
- The publisher must be a reliable institution, publishing house or validated journal.
- The source must fulfill the general requirements of an academic paper.
- The source must have a complete bibliography.

In terms of articles, it is important that they have the following elements:

- A research question
- Research objectives
- Conceptual and/or theoretical framework
- Methodology
- Results
- Discussion
- References

Note: if any potential article to be included lacks one or more elements, it would not be included in the present monograph. Besides that, all of them had to be related at least to one of the aforementioned keyword terms.

The third stage included gathering and analyzing the information found on the different sources by means of ordering the resources in terms of topics, and date of publication. Then, relations among the materials were established, to elaborate a general structure, and distribution of topics and subtopics. The relations were considered within these categories: close conclusions, similar research questions, similar contexts, and topical connections.

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Since the foundation of this monographic paper, as in any other, is the usage and interpretation of previous research on the topic, it was necessary to take care of the evaluation of the studies to be included on the paper; therefore, for the study quality assessment a variety of factors was considered to evaluate the validity of the sources; this was done by the examination of the soundness of the following aspects of each study:

- Research question (s)
- Methodology
- Criteria measures
- Data analysis
- Discussion and conclusions to provide solid descriptions on the historical definitions and development of concepts, as well as theoretical disagreements among authors.
- Ethics

These aspects are the key issues of a research that can potentially produce flawed interpretations and results; thus, it is important to bear in mind certain elements when examining a research article or study. For instance: the studies must have, among others, a research question that is sound, clearly defined and has no errors of logic; appropriate statistical tests applied for the type of data gathered, and assumptions for their use met; discussion and conclusions which are congruent with the study's results.

Following this, it must also be discerned if the aforementioned are related to the research topic; their validity on the field of third language acquisition, and linguistic interference; likewise, they must comply with the stated research objectives.

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The process of data extraction and synthesis is carried out by selecting the most relevant parts of each study to add only the relevant information in the monograph; hence, leaving aside other information that is not quite pertinent to the purpose of the paper, such as the population, data collection instrument, methodologies, among others. In conclusion, the data extraction and synthesis considering the following elements:

- Research questions
- Research objectives
- Results
- Discussion and conclusions to provide insightful considerations on the concepts.

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Interlanguage

This conceptual framework serves as a research starting point in which the main concepts and theoretical proposals that have a connection with the research topic are listed, defined in detail, and sectioned according to the different subdivisions that respond to different theoretical analysis. It provides the definitions and microelements each of the concepts has.

This conceptual framework introduces a historical overview of the concepts and presents exhaustive categorizations, definitions, and examples of the constitutive constructs. The conceptual ideas help understanding from a broad view to a more specific one, all the processes and sub-processes that take place while learning a second language that can be applied for further research studies to the understanding of the third language as is the case of interlanguage, understood as a successive approximation to the target language. It is discussed taking the point of view of Nemser (1971), Selinker (1972), and Yule (2010). The second construct is linguistic errors. It is conceived as the incorrect use of a word, grammatical term or structure. This construct is introduced following the ideas of Corder (1967) and Saville-Troike (2006). A third construct is multilingualism which was defined according to Haarman (1980) and Herdina et al (2002) among others. The final construct is on third language transfer models that respond to multiple theories and therefore authors.

Finally, it is worth mentioning that this conceptual framework is descriptive as it takes different points of view to analyze the constructs and it is done similarly with their components, for the nature of this monograph requires that all of them are well stated and supported not only by theoretical sources but also by empirical evidence that

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enriches it and allows creating general conclusions out of particular traits in the studies exposed as examples of application.

The construct of interlanguage is in this conceptual framework included due to the vast number of research papers that have been conducted on L2 learning to analyze the influence L1 has on L2s. Interlanguage helps to clarify the intricate processes that interconnect both systems and result in its creation as a means of an intermediate stage between them. This construct sheds light on L2 learning research and L3 learning if interest in the influence between these latter systems exists for the studies historically going from L1 on.

To understand the concept of interlanguage and its subdivisions, the following section introduces the definitions given by different authors such as Nemser (1971), Selinker (1972), and Yule (2010), that theoretically apply to it. Alongside, the sub-concepts that belong to this construct are introduced systematically by means of giving their definitions and their respective support using examples.

Concept definitions

Definition of Interlanguage

According to Nemser (1971), interlanguage is simply a successive approximation to the target language that takes place when learning a new language. The approximation fits the requirements of the new language, providing students the tools to fulfill communicative tasks by an approximative system.

On the other hand, interlanguage (IL) is a technical term that alludes to foreign language learners' linguistic ability that does not match that of native speakers but behaves as a systematic knowledge of the language (Selinker, 1972). This means that

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this capacity is an intermediate stage between the L1 and the L2 that works as a systematic way of organizing the new linguistic knowledge. It is independent of both, the learners' native language and the target language. It is worth mentioning that Corder (1981) called what others had called "interlanguage", as the "transitional competence" to refer to the constant dynamism of a language learner's evolving system.

In agreement with this definition of interlanguage in his introductory book *The Study of Language*, Yule (2010) states that interlanguage is the type of language produced by L2 learners that has characteristic errors that do not respond either to L1 traits nor do they to L2's. According to this author, interlanguage has some features of L1 and L2 and as well as some others independent of both.

Although some details about the definition of interlanguage may vary from author to author: whether it be described as an intermediary between two languages, a set of characteristic errors, or as a linguistic competence on itself; all authors concur on the idea that interlanguage is a linguistic process which allows the user to extrapolate pieces from either mother tongue or target language, creating a unique and coordinated linguistic system.

As already noted, it can be inferred that interlanguage is indeed a systematized linguistic process brought up from the learner's previously acquired languages and the target language as a way of arranging the newly attained knowledge. Its errors do not necessarily belong to the previously learned language(s), nor the target language, and it is rather a compilation of characteristics of the languages as a new and independent code or system. This can be explained as the dynamic system developed by a learner of a second language who has not become fully proficient yet, it is in the path to

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approximate himself to the target language, though; preserving or overgeneralizing the L2 rules in his production in terms of phonology, lexicon, morphology, syntax or pragmatics.

To exemplify this phenomenon, take a French-speaking learner of Spanish, the learner may maintain some time the characteristic double negative form of French *-ne...pas-* when producing either oral or written texts. The following piece of production is an example of this syntax interlanguage case:

-Spanish native speaker: *A mí no me gustan las películas de terror. ¿A tí sí te gustan?*

-Spanish learner: *A mí no (ne) me gustan pas. Yo prefiero las películas de humor.*

In this example, it can be observed how the L2 learner continues using the L1 negative form though it does not correspond to the form of the L2 but accomplishes to work with the same meaning.

As a final element, talking about interlanguage gives rise to a whole set of subdivisions of the term, all imperative for the understanding of the concept of interlanguage. First, it is to talk about the phenomenon of fossilization, which directly derives from the interlinguistic system aforementioned and has a direct connection with the components of interlanguage.

Definition of Fossilization

According to Selinker (1972), the concept of fossilization can be understood as the group of linguistic items, rules, and subsystems a speaker of a native language (NL) keeps in their interlanguage (IL) in connection to the target language (TL). These items,

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rules, and subsystems stay intact no matter the age or the explanation and instruction a student receives. Later in 1992, Selinker also mentions that fossilization can be also understood as a particular stage, usually the last of L2 learning, in which a learner cannot progress beyond his linguistic development. Adding to the previous definitions, Richards and Schmidt (2010) affirm that it is the group of incorrect linguistic features that after a process of stabilization become permanent characteristics of an L2.

In other words, fossilization is regarded as the freezing of transition between the NL and the TL. This freezing transition occurs when the language learner is capable of conveying a message in the new code with errors, these errors do not impede understanding, though. As a consequence, the learner can continue expressing himself without the necessity of correction. Instead, the errors are fossilized.

Processes of Interlanguage

According to Selinker (1972) in regards to interlanguage, adults acquiring any L2 may present the following five central processes which distinguish from how L1 acquisition happens: 1) language transfer; 2) transfer of training; 3) strategies of second language learning; 4) strategies of second language communication, and 5) overgeneralization of L2 rules. Selinker (1972) considers these five processes regarding to the possible fossilization of the items, rules, and subsystems. In the section below, each of the processes above mentioned will be introduced and briefly explained.

Language Transfer. Selinker (1972) states that if interlanguage performance is a result of NL it is due to the process of language transfer that affects TL. This process is considered by Selinker as an active role of the language learner. Odlin (1989) provides a wider description of language transfer with the following ‘transfer is the influence

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resulting from similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired' (p. 27)

In this sense, it is hypothesized that in the creation of interlanguage, language systems from previously acquired or learned languages influence the learning of a new one, such as in the case of bilinguals, who speak French and Italian, learning Spanish, may take advantage of these two linguistic systems to approach not only the learning of Spanish, but also to convey meaning consciously or unconsciously adopting the rules based on the previous languages because they are not equipped yet with sufficient knowledge of the target language (TL).

Transfer of Training. Selinker (1972) states that:

If these fossilizable items, rules, and subsystems (which occur in IL performance) are a result of identifiable items in training procedures, then we are dealing with the process known as *transfer of training*.

What this means is that if fossilizable elements are consequences of training procedures or bad teaching, we are before a case of transfer of training. This means that the patterns, rules, and structures badly taught may fossilize and continue affecting L2.

It is worthy to point out that in foreign language teaching settings, the transfer of training may increase dramatically, in contrast to conditions in which the TL is used as a second language and the teaching resources and the teacher himself are not the only linguistic exposition via students have to the TL. In other words, transfer of training focuses on the interlanguage effects that come by means of the teaching methods and

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materials. These effects can be very deep-rooted because it occurs at the initial stages of learning when the learners are taught in excess.

For example, take the case of a Spanish learner living in the US. Her Spanish teacher is a non-native speaker of the language. When teaching a latino culture class, on the case of festivities, the teacher taught the students to name the celebration of 15th birthday as *quince años*. The problem here is that she taught students to pronounce the number as *qüince* as if it were a diphthong, but a hiatus. Afterwards, the Spanish student continue repeating the wrong pronunciation pattern as it was learnt during the lessons, affecting her speaking production in a negative way.

Strategies of Second Language Learning. In the case of fossilizable patterns due to the attempts of learners to simplify the system being learned, or to the strategies they use to approach the materials, they are caused by the strategies of second language learning. Lennon (2008) mentions that 'to avoid cognitive overload, learners seem to shut out some distinctions available to them in input and use what they perceive as the most fundamental elements' (p. 56).

Selinker (1972) states that they occur when the structures and rules of an IL are due to the approaches of a learner to the TL. This is to say that learners are inclined to simplify the TL in the language learning process. For instance, if a student pays excessive attention to fluency but ignores accuracy, some language errors may arise, if not corrected they can be easily fossilized. For instance, English learners, having Spanish or Italian as their first language might voluntarily use grammar ellipsis when conjugating verbs in order to avoid the overload of adding them all the time. This can be seen here:

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Instead of saying:

I have many friends living in Ecuador. They also play football and basketball;
students could be prompted to say: I have many friends living in Ecuador. Also play football and basketball.

Strategies of Second Language Communication. Selinker (1972) addresses the fourth type of fossilization case as the strategies learners use to get their meanings across even by permitting inaccuracies in the message form to achieve communicative ends when talking with native speakers to benefit fluency. These IL strategies are used by learners when they have communication problems in the TL, and to guarantee communicative fluency, language learners may simplify their speech, avoid difficult structures or topics, transfer elements from previously learned languages, abandon the message, translate literally, and code switch; all these strategies' objective is to overcome issues when conveying meaning. Added to the aforementioned strategies, some others use circumlocution, word coinage, and approximation. Surprisingly, native speakers of the TL usually tolerate the incompleteness of the language learner for they perceive these strategies as ways to reach and maintain communication.

Overgeneralization of L2 Rules. For Jakobovits (1969) overgeneralization is defined as:

...The use of previously available strategies in new situations...In second language learning some of these strategies will prove helpful in organizing the facts about the second language, but others, perhaps due to superficial similarities, will be misleading and inapplicable. (p. 70)

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According to Selinker (1972), if the cases of fossilization are due to the extension of TL rules and other semantic features in almost every case, we are facing overgeneralization of L2 rules. This phenomenon results in IL features that deviate from the TL learner's exposition to different structures and applied to others. Take for instance, 'she can plays', the 's' being added because of the overgeneralization of the simple present rule before the presence of the personal pronoun 'she'. What this example shows, is the perception of learners to conceive rules as omnipotent and ubiquitous in every similar linguistic case.

Also, overgeneralization has been linked to simplification of linguistic burden, for instance in the case of omission of the third person '-s' in the simple present or the cut of 'redundant' markers, such as the '-ed' for simple past as following: "Last week, I play ice hockey with my friends"

It is worth mentioning that the concept of interlanguage with its multiples subdivisions allows researching not only in L2 but also in L3 learning as a dramatic need nowadays that globalization embraces the planet and more and more people use language transfer strategies forward and backward their L3 learning from their L2 and even from their L1. Interlanguage seeks questioning linguistic understanding of the influence between languages, and these lines here tried to do exactly that.

The construct of interlanguage will be used in this research paper to understand the processes underneath learning a third language that may have their origin in previously learned languages. A better comprehension of the influences of the other languages and the ways they operate provide a more solid background for future studies on this field and give the researcher a clearer idea of what they may find.

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The following section introduces the concept of errors and shows the different types of errors that linguists have identified. This second construct helps to understand the possible incorrect uses of words and grammar structures that language learners may commit.

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Linguistic Errors

The concept of error in the linguistic field is of great relevance for the development of this project as its involvement in language interference is of outmost importance; this is because when relating to production in any second or third language potentially implies the subconscious making of linguistic errors that can belong either to grammatical structure, word, or linguistic item to be used. This section will explore the aspects regarding the definition of errors and their analysis, the definition of linguistic transfer, which evolves into positive transfer, and negative transfer or interference, and finally the types of errors.

Definition of Error

An error is understood as the incorrect use of a word, a grammatical item or structure that is imperfect and significantly incomplete for its understanding in two different levels: global and local. According to Corder (1967) errors are due to the interference of L1 habits in L2 learning. Saville-Troike (2006) offers another definition of error. For this author, they are 'inappropriate utterances which result from learners' lack of L2 knowledge' (p. 188).

It is worthy to establish here that there is a slight difference between errors and mistakes. While errors are deviations from the lack of L2 knowledge of linguistic rules and their usage, mistakes as pointed out by Saville-Troike (2006) are as well inappropriate productions, but in contrast to errors, they do not come from the lack of knowledge, but from the failure in processing their competence caused by different possible reasons such as lack of attention, fatigue, carelessness, etc. Richards et al Schimdt (2010) offer another meaningful definition of error. For them, they are the use

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of a linguistic item in a way a native speaker of the TL may consider incomplete or incorrect. Regarding their type, errors are classified according to vocabulary as lexical errors, pronunciation as phonological errors, grammar as syntactic errors, misunderstanding of a speaker's intention or meaning as interpretive errors, and to the production of the wrong communicative effect as a pragmatic error.

The following section introduces the definition of linguistic transfer and its subdivisions. After that, the definitions of different types of errors, including global, local, intralingual and interlingual are described and explained by means of examples.

Linguistic Transfer Definition

Linguistic transfer is defined by Selinker (1972) as linguistic elements (such as systems, structures, and rules) that are taken by the learner from the initial language, generally being the mother tongue and applied into the target language or the newly acquired language, which are often incorrect. Another author who offers a perspective on language transfer is Saville-Troike (2006), which interprets linguistic transfer as the cross-linguistic influence that occurs from a language to the other most often from L1 to the TL. This transfer can be divided into positive, and negative transfer, the latter also known as interference.

Positive Transfer. For Saville-Troike (2006) positive transfer can be understood as the transfer of elements acquired in L1 to the L2 that may be beneficial to the learning or acquisition of the TL such as in the case of acquiring the same structure in both languages. For instance, the transfer of the plural morpheme “-s” from Spanish to English can be a positive transfer as it happens in both languages, some restrictions may apply in the L2, in this case, English.

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Negative Transfer (interference). In contrast to positive transfer, negative transfer also called interference, is the type of transfer from the L2, including linguistic items and structures that may be used inappropriately in the TL (Saville-Troike, 2006). For instance, the transfer of adjective-order from Spanish to English e.g. From “Las flores blancas” to “The white flowers”. To broaden the concept of interference, Lado (1957) offers five types of negative transfer cases which are introduced in the following section.

Same Form and Meaning, Different Distribution. This type of linguistic interference can be evidenced when the word order in a sentence presents a contrast in form and comes to another level of analysis. To exemplify this, in Spanish -s is added to articles, modifiers, and nouns; whereas English only adds it to nouns, although -s and its meaning of “plural” are the same in both languages.

E.g., in Spanish: La paloma blanca ‘the dove white’

Las palomas blancas ‘the doves whites’

English: the white dove; the white doves

Same Meaning, Different Form. In this second type of linguistic transfer, the same grammatical meaning is expressed differently in both languages. For instance, in Spanish, the future tense is expressed by adding a tense suffix at the end of the verb, while in English the same meaning is conveyed by using an auxiliary (will) not a suffix for each verb. In this example, it can be observed that in both languages, their speakers convey the same intentional meaning by using totally different forms that can affect the L2 learning whatever language it is.

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Also, let us consider the case of adjectives in English and Spanish. In both languages, adjectives describe objects, people, places etc. Nonetheless, in Spanish adjectives are gendered and pluralized, while in English they do not suffer any kind of change. In Spanish we say *Los amigos gordos comieron manzanas rojas*, while in English we say 'The fat friends ate red apples'. In English adjectives stay the same in any given situation, but in Spanish they need to match nouns both in number and gender.

Same Meaning, Different Form and Distribution. This particular type of linguistic interference involves the same meaning of a sentence in both languages, but the distribution and form are distorted in translation.

E.g. for English the noun "water" as "water in the rivers", the same word can be used as a verb as in "water the plants". In Spanish however, the word "agua" can only be used as a noun, unless its form is changed.

Different Form, Partial Overlap in Meaning. For this category of linguistic interference, a word in one language can have several different semantic meanings yet when translated into other languages, can have a specific word for each of those meanings and the equivalent terms are accurate in both languages.

E.g. English: leg

Spanish: pierna (leg of a human being), pata (leg of an animal or object), etapa (leg of a trip or race)

Similar Form, Different Meaning. This type of interference implies two similar forms or words in the L1 and L2 that look and sound so much alike, but have different meanings. These words are also known as false friends or cognates. This case

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exemplifies this type of interference. In Italian, the word *burro* is exactly the same as the Spanish word *burro*. Though they look exactly the same, in the Italian case, it means butter, but in the case of the Spanish word, it means donkey.

Types of Errors

Global Errors. According to Ellis (2008), global errors are errors that affect the overall sentence understanding and may have a tremendous effect on its comprehension. This means that global errors cause utterances that impede full comprehension by the speaker (listener). For instance, when saying 'my sister and I went home early because was tired', the listener might not comprehend the overall meaning of the sentence because it lacks a personal pronoun to fully clarify which one of the subject (s) was/were tired. In other words, the interlocutor may ask himself whether the tired person was the speaker, his sister or both of them.

This global error could be easily solved by adding the missing personal pronoun as in 'My sister and I went home early because SHE was tired'.

Local Errors. In contrast to global errors, Ellis (2008) states that local errors are errors that affect single elements of a sentence and may not impede its understanding. This type of errors could be exemplified by the following utterance produced by a Spanish-native speaker. When addressing a person, this English learner usually adds a /s/ sound at the end of some words, nonetheless, this does not impede comprehension, e.g. Hello my friend-s...

Interlingual Errors. This type of errors that are also known as cross-linguistic errors according to Corder (1981) are the kind of errors that happen when a learner's linguistic habit impedes him from acquiring the patterns and rules of the second

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language. For Chelli (2013) they are the result of language transfer from the first

language, in other words, this type of errors are caused by the interference effect of the mother tongue in the TL.

Different examples can be showed here:

A. When writing in English, Spanish speakers sometimes spell English words using Spanish phonemes such as: 'de car', instead of 'the car'

B. Native Spanish, French and Italian speakers might invert the position of adjectives and nouns in noun clauses when speaking in English. In these romance languages, adjectives come before nouns, while in English it is the other way around. For instance, in Italian we say: '*La casa gialla*', being '*gialla*' the equivalent for yellow in English. The same declarative sentence is 'The yellow house' in English, but not 'The house yellow'. In this example, it is clear how English learners invert the position of adjectives to fit their previous acquired language patterns, as an evidence of interlingual errors.

Intralingual Errors (developmental errors). Intralingual errors can be defined as the errors within languages that are not caused by cross-linguistic influence. For Richards (1974), they are the result of the generalization of patterns based on partial exposure of the learner to the L2. In addition to his definition of the term, Richards (1974) classifies intralingual errors within four categories: overgeneralization, ignorance of rule restrictions, incomplete application of the rules, and false concept hypothesized. Saville-Troike (2006) defines intralingual errors as developmental errors and points out that they are incomplete patterns of L2 rules or their overgeneralization. The following

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section introduces the different types of development errors that have been described by different authors.

Overgeneralization. This type of error is understood as the too broad application of rules in the L2. For example, forming all plural in English by adding the suffix “s” even to irregular plurals, as in the case of fish or sheep. Another example that fits into this category is the generalization of “-ed” past form to all verbs even those which are irregular such is the case of write or speak. These two verbs form their past form independently from the usage of ‘-ed’ as in wrote and spoke, respectively.

Ignorance of Rule Restrictions. This second type of error is due to the ignorance of the rule by the learner. This means that one disobeys the structure of the language to be learned and may result in restriction errors. For example, some English students do not conjugate verbs in the third person singular as it is grammatically correct. This means that instead of saying, ‘She is my friend Camila and she always goes to the store with me’, they say ‘She is my friend Camila and she always go to the store with me’. English learners could justify their decision to violate the rule by arguing that in English pronouns are always added, so there is no need for conjugation.

Incomplete Application of the Rules. According to Richards (1974), this type of error occurs when a L2 learner fails in applying any given linguistic rule due to the stimulus sentence. For example in the sentence ‘You prefer vanilla or chocolate?’, the auxiliary verb ‘do’ is not present as it should be in ‘Do you prefer vanilla or chocolate?’

False Concept Hypothesized. In the fourth categorization of intralingual errors, learners’ under developed capacity of understanding the distinctions of the TL items may be derived into a false conceptualization of rules and in overgeneralization in some

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cases. For example, some learners think *is* is the marker of the present tense. So, they produce: He is talk to the teacher. Similarly, they think that *was* is the past tense marker. Hence they say: It was happened yesterday (Touchie, 1976, p. 79)

Errors play an important role in the development of this monographic project as when referring to second and third language production, interference being the focus of this project it is settled to point out the different types of errors and interference that can take place in the learning process of a third language and how these set the process as different from second language acquisition.

Studies on the Field

Due to globalization, the number of people interested in learning a third language has been increasing. Knowing a second language seems nowadays not to be sufficient to fit world requirements. This fact calls researchers' attention to address third language learning and the influence of previously learnt languages. This literature review introduces two articles which approach this issue. The first is *Inter- and Intra-Lingual Interference Effects in Learning a Third Language* by Joshua et al (1981), while the second is *Cross-Linguistic Influence in Third language acquisition. The case of Portuguese as a third language in Serbian Students* by Pinto and Carvalhosa (2012).

The first study is about the types of interference (inter- or intra-lingual) that may appear in learning a third language. This article addresses the interferences English and Igbo languages may have on the process of learning French in college students in Nigeria. This study examines 3 main elements: 1) the interlinguistic interference effects traceable to Igbo, English or either Igbo or English, or to intralingual in French, 2) the errors made according to the nature of structural similarities in the target language; and

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3) the influence of relative proficiency in the target language susceptibility. Hence, this first article pretends to identify and assess the interference from first and second language on learners of French.

This study was developed in the French Department, at Alvan Ikoku college of education, in Owerri, Nigeria, involving a multilingual population of students of French as a third language (with the command of languages Igbo and English), some with no prior experience learning French, as well as others with an educational background in the target language. Nigeria being a country that possesses over 400 languages, with English as the official language, it is not strange that almost every student of French is already proficient in at least two other languages, yet French is a matter of study as it is taught country-wide in schools as a foreign language subject. This research states three main interrogatives: 1) How is Inter-linguistic interference effects traceable to Igbo or English in the analyzed samples? 2) What is the nature of the errors made by the participants regarding the structural similarities to the target language? 3) What is the influence of relative proficiency in the target language on the susceptibility to interference?

The methodology of the research consisted of the application of grammar tests containing parallel, yet differently executed structures in Igbo or English and designed to indicate errors likely to be caused by interference of type `Igbo, but not English`; `English, but not Igbo`; or `both Igbo and English`. The point of the grammar tests was for the subjects to identify any structural mistakes on a French-based evaluation that unknowingly had several cases of the fourth mentioned cases of inter-linguistic interference. The test being performed by two groups of twenty-second-year students of

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French per experiment (for a total of 40 participants) in two different experiments with a two-year difference, with the variation that one group consisted of people with no previous instruction of French, in contrast to people with prior experience of five years of instruction in French.

The grammar tests were administered to both groups on the same days, yet on different periods, with the subjects being unaware that they would be tested prior to the implementation of such tests. One hour was given for the subjects to answer the seventy-five test items; however, the group of experiment II was asked to spot and correct the errors found in the test, meanwhile, the group of experiment I was only required to spot the errors. The authors of this article highlighted the 'exclusion of data on errors in discourse' (p.86) as the main constraint of the study. Such limitation responds to the nature of the data collection instrument: a written test, intended to identify attributable interference cases. In particular, the researchers questioned if the analyzed errors do reflect naturally occurring errors and if the interference of comprehension is proportional to errors of production.

The findings reported by the authors are that (1) the interference cases attributable to English on Igbo and French were the most common, in contrast to Igbo item where the participants had the least errors, in this matter, the authors consider that some linguistic elements and languages themselves have more interference than others; (2) the most predominant errors were found in items that the students judged as being correct in terms of syntactic and semantic production, ergo concluding that the students were unable to identify while containing nuances belonging to the other languages (either English or Igbo); (3) the potential of interference increases with the

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number of languages a student knows: as beginners show more interference than more proficient users of a third language do.

In the second article, *Cross-Linguistic Influence in Third language acquisition.*

The case of Portuguese as a third language in Serbian Students by Pinto and Carvalhosa (2012), the authors found similar results as in the previous investigation by analyzing the influence of previously learned languages in learning a new one in this case Portuguese. These authors contribute to the understanding of cross-linguistic influence in third language acquisition through the analysis of a written production made by learners of Portuguese as a third language executed based on a previously-prepared dictation. The participants of this research were thirty-seven students, doing 1st, 2nd, 3rd and 4th year of their degrees accordingly, from the University of Belgrade who were learning Portuguese as a third language. As mentioned above, Pinto & Carvalhosa (2012) highlight that the research subjects had studied/were studying at least two other foreign languages including English, Spanish, French, Italian and Russian.

This research took as sample thirty-seven written materials which the students produced based on a dictation of a popular Portuguese story. Hence, founded on the written production, this research was intended to answer the following research questions: (1) to what extent is cross-linguistic influence in the third language present in Serbian university students' written productions of a previously prepared dictation?; (2) how is cross-linguistic influence present in their written productions?, (3) which words are most affected—content or function words?, (4) which previously acquired language is exerting this influence?, and (5) which of the factor(s), identified as 'condition[ing] L2's influence on L3? (Hammarberg, 2001, p.22., cited by Pinto & Carvalhosa, 2012, p.174).

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It is of high relevance to highlight some facts about this study: first and foremost, the study reveals how morphosyntactic roots, and the similarities among those across languages, play a role in cross-linguistic influence. It is also relevant to note that the authors of the study made the separation between the categories cross-linguistic influence (CLI) and spelling errors when processing the data as a way of demonstrating that they must be regarded as two different phenomena, since the results labeled as CLI are much more revealing of the process of an individual who has previously studied other languages when facing a new language.

However, another matter worth noticing from this study is that at the point of the study being carried out, the proficiency level on Portuguese of the subjects might have not been enough to perform the task they were required in regard of the phonological and orthographic demand of it; which could have influenced the results of the study, therefore limiting the reach of the conclusions.

The findings reported in this article revealed in response to research question number three that the more affected words were content ones more than function ones. Moreover, it shed light showing that as a possible reason for students not to obtain lower means in errors production respond to the low-level students had on their knowledge of Portuguese, so they were not yet able to process the required phonological-orthographic correspondences. Besides this, the study revealed that the students may have been influenced by the closest language they knew: Spanish, regarding this, the researchers point out that reasons may be the familiarity Spanish vocabulary and verb tenses have in common with Portuguese.

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Finally, the researchers mention that they agreed that in initial language learning stages, teaching must be carried out in the “traditional way” to develop in learner’s explicit language awareness and to apply properly the grammatical rules. As a conclusive statement from both studies, it can be said that in both, researchers highlight that third language beginner learners are more prompted to evidence interference than do more proficient students. Moreover, it is worth mentioning that in both articles just one of the extra learned languages showed to exert more influence in the learning of the third language than the others for different reasons: linguistic proximity or linguistic relevance for learners.

Both studies contribute to the existing discussion around interlinguistic influence on third language learning by bringing into questioning what factors are likely to increase interference cases from one language to another and what the nature of intra/inter linguistic errors is. Hence, the researchers set the basis for similar studies pondering upon traceable effects of the linguistic background on the learning of a third language. Though the results obtained show certain levels of cross-influence and interference of languages, it is still missing investigations regarding the impacts proximity and language families have on the process of learning a third language.

In the particular context of Colombia, it can be found the work done by Buitrago et al (2011). Based on the work of Czochralski (1971), Weinreich (1968), Flor (1995) and Clyne (1980), this study titled *Interferencia lingüística en el aprendizaje simultáneo de varias lenguas extranjeras* by Buitrago et al (2011) was aimed to identify and describe the linguistic interference present in the simultaneous learning of multiple languages as well as to suggest pedagogical and curricular approaches to multilingual-

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learning-environments in the Colombian context. The authors recalled the historical approaches to the concept of interference highlighting Flor's (1995) favorable views on interference relating it to the code-mixing process.

This research took as participants undergraduate students and professors involved in the English, French, Italian and German courses of the modern languages program from Universidad de Caldas. The main instruments to collect data were interviews, surveys and, written productions. Thus, 13 university's professors of different foreign languages were interviewed in order to inquiry on linguistic interference of other languages in writing production. Likewise, a survey was conducted on 50 modern languages' undergraduates to determine participants' perspectives of linguistic interference on their own writing productions. Also, a set of written productions were collected from different courses to analyze the interference nature.

In this sense, Buitrago et al (2011) reported three main findings: Firstly, the interference-rate, significantly increases during the simultaneous learning of multiple languages when there are phonetic, morphological and semantic similarities among languages. Secondly, teaching methods are closely linked to linguistic interference, that is to say, that those languages taught through the communicative language approach were more likely to experiment interference among them in contrast to those languages taught through a grammar method. Finally, lingua francas stimulate interference cases whereas higher degrees of proficiency on that foreign language do not. To conclude, the researchers mentioned the lack of literature on the simultaneous learning of L2, L3, and L4.

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All the aforementioned concepts play a role in the development of this monographic research project as they elaborate on the processes and sub-processes that are involved in the acquisition of a second language, being hereby adapted to the process of third language learning and how this is affected by linguistic interference. The incorporation of these concepts into the theoretical framework of this monographic project is intended to establish the foundations of linguistic interference and errors on syntax, the effect it has on second and third language acquisition processes. As it is the aim of this monographic project to provide concepts, theories and perspectives on the matter to be used as a future reference for research works on third language acquisition for the local setting, this conceptual framework considers within its constructs the points of view of several authors and their involvement in the evolution of said concepts to present a solid knowledge base on syntactic interference in third language acquisition from a psycholinguistic point of view.

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Multilingualism

On basic terms, multilingualism can be understood as the control or proficiency that an individual has over two or more languages; however, it is complicated to define beyond those simple words, as there is not really a consensus reached for the entailments of multilingualism, and the concept can vary massively from author to author. We can find this conceptual disagreements coming from some general approaches: 1) multilingualism is the native-like proficiency of two or more languages; 2) multilingualism is merely an extension of bilingualism; 3) multilingualism is a separate system of complexity beyond that of the bilingual in an often uneven manner with one of the languages being dominant over the others.

Definitions of multilingualism

The process of reaching a definition of multilingualism has been rather tumultuous, as there is not an agreement on the concept. If we were to address the evolution of this term historically, we could then look back to Braun (1937, p. 15) who defended multilingualism as an “active balanced perfect proficiency in two or more languages”. In other words, for Braun (1937) it had to involve an active and equal mastery of two or more languages, ergo a native-like position was held.

Later on, bringing an entirely different conception, Haugen's (1956) work in which this author suggested that the term multilingualism can be understood under, or as a type of bilingualism, and that in this latter, the concepts of polyglotism or plurilingualism can be also considered as equivalents. In this situation, it is apparently necessary to call out different elements to construct a solid definition of the term, among them: scientific

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requirements, historic appropriateness and social views (Franceschini, 2011). In this respect, an interesting point of view is given by Mackey who also used *multilingualism* as a cover term for all forms of bilingualism:

...if we are to study the phenomenon of bilingualism, we are forced to consider it as something entirely relative. We must moreover include the use not only of two languages, but of any number of languages. We shall therefore consider bilingualism as the alternate of two or more languages by the same individual (1957).

In this sense, multilingualism, according to Haarman (1980) and Herdina et al (2002) was initially perceived as an extension of bilingualism, or even worse: both terms were, and sometimes *are* taken as synonyms without the establishment of a clear division line between both; further perpetuating the conception of multilingualism as a mere extension of bilingualism, leading to ambiguity and confusion in future research. In contrast, current research looks beyond this first ambiguous conceptualization. Nonetheless, there is still conceptual and practical confrontations at the scientific level when it comes to defining multilingualism. In this matter, a growing number of researchers consider that FLA and SLA *both* differ from Third Language Acquisition (TLA) in multiple respects (Cenoz et al, 2000; Cenoz, et al 2001a, b, 2003; Herdina et al; Flynn et al 2004)

For example, *The Concise Oxford Dictionary of Linguistics*, according to Matthews (1997) defines bilingual communities as those with “two or more different languages” (p. 39) This evidently overlaps with the concept of multilingualism, which according to different authors refers, explicitly, to those communities speaking three or

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more languages from the perspective in which multilingualism and bilingualism are independent systems, and cannot, in any case be taken as synonyms. In these very senses, we can call out what Aronin et al (2012) name as narrow and liberal interpretation of the same phenomenon. In the first one, approximations like that of Braun (1936) in the aspiration of the native-likeness comes into confrontation with what other scholars understand for multilingualism, such is the case of Edwards (1994) who exposes a wider definition not only of multilingualism but also of bilingualism, even at a very limited linguistic production evidence.

Edwards' (1994) perception seems to be aligned with Hall (1952) who considered a person who had 'at least some knowledge and control of the grammatical structure of the second language' (p. 14) to be a bi (multi)lingual. Being this perception so liberal supposes also a problem for even the passive knowledge of a language, within this conceptual frame considered as evidence for bilingualism (Diebold, 1961). With this is not intended to underestimate scarce linguistic knowledge a person may have of additional languages, but here it is acknowledged that it may contribute to have a significant preparatory and metalinguistic awareness value for further language acquisition stages (Jessner, 2006).

On the other hand, some other authors such as Jessner (2008), and Gutiérrez (2013) offer more clear-cut definitions on multilingualism that contribute to the understanding of the phenomena as one independent concept that stands apart from the bilingual-user root. In this vein, Jessner (2008) states, differently from the classical and widespread consensus that, multilingualism refers *only* to the learning of more than two languages. In this sense, Gutiérrez (2013) defines multilingualism as

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the “proficiency on three or more languages, including one’s mother tongue” (p. 174), so long as the individual possesses an advanced proficiency level in all languages as means to be considered a multilingual person. This conception has to be taken carefully because of the clear segregation it implicitly poses in terms of the level of proficiency of the languages a speaker has.

We can find support to this assertion on Hoffmann (2001a, p. 3) when indicating that multilingualism has “characteristics of its own” regarding SLA. Also, it is feasible approaching the idea that bilinguals as compared with monolinguals perform much better when learning a third language (see Ringbom, 1987 and Thomas, 1988).

In order to understand this conflict that arises between the definitions of Jessner (2008) and Gutiérrez (2013), when the first one does not make any reference to the proficiency level of speaker’s languages to be taken as a variable to define multilingualism while the other does; Peal and Lambert (1962) introduced two important terms around the position languages have in the mind. These terms are dominance and balance. The former referring to the mental state of having one or more languages which are dominant, characterized by having a higher level of proficiency over the others that are also in the mind, while the latter establishes a sense of equality among the languages a person has. In other words, balance means having equal proficiency levels in two or more languages at a time.

At this point, it is insightful to consider as well the perception Braun originally had, back in 1937 when he distinguished between two types of multilingualism: 1) one natural, in other words, acquired from birth (resulting in active balance proficiency), and

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2) one learned (which in some cases “could” also derive into *active balance proficiency*)

(Jessner, 2008,p.16).

According to Aronin et al (2012) current research states several differences between multilingualism and bilingualism, these, as indicated, are quantitative distinctions as follows:

- Greater complexity and diversity of the factors involved in acquisition and use where more than two languages are involved (Cenoz, 2000; Hoffman, 2001a, b. & Herdina et al.,2002)
- Multilinguals not only have larger linguistic repertoires, but the linguistic range of situations in which they can participate is much wider than bilinguals’. Herdina et al (2000, p.93) call this as “the multilingual art of balancing communicative requirements with language resources”, this special capacity seems to make a clear distinction in qualitative terms.
- According to Cenoz et al (2003), multilinguals have passed through longer language-learning routes than bilinguals.
- Another important distinction to be made lies in the area of strategies and proficiency levels multilinguals use (According to Kemp, 2007)

Finally, it is worth indicating a final terminological approach which helps understanding these phenomena and also for constructing better oriented research studies. Hamers et al.(1989, 2000) who first established a distinction between the coined term *bilinguality* (the individual attitude), and *bilingualism*, which is understood at the societal level. In this very sense, Aronin et al (2004) also coined a new term:

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multilinguality, which is defined as a “personal characteristic” while *multilingualism* is restricted just to the societal level in analogy to Baker et al (1998).

As a corollary, considering all these research and terminological factors, multilingualism can be seen from the point of view of Franceshini (2009) as follows:

The term/concept of multilingualism is to be understood as the capacity of societies, institutions, groups and individuals to engage on regular basis in space and time with more than one language in everyday life. Multilingualism is a product of the fundamental human ability to communicate in a number of languages. Operational distinctions may then be drawn between social, institutional, discursive and individual multilingualism (p.33-34)

Theoretical approaches to Multilingualism

Multicompetence

In recent years, the field of Applied Linguistics has gained great insight into the entailments of multilingualism, as well as the multilingual mind and how it differs from that of a monolingual individual; among these understandings reached on the field, comes the term of multicompetence, first used by Cook (1991) who defined multicompetence as “*a language supersystem*”, somewhat of a compound state of mind that holds two grammars different from monolingual speakers’ LK (language knowledge), claiming that the language competence of speakers of more than one language could not be comprehended by comparing it to formal linguistics’ assumption of homogenous exchanges across speakers and contexts, as did early linguistic theories, such as Chomsky’s (1965), which constructs involved solely ideal speaker-listener situations with native speakers.

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To support his claims regarding the term multicompetence, Cook (1991)

provided the following evidence:

- Cognitive differences between monolingual and multilingual speakers.
There is an increased metalinguistic awareness on multilingual individuals.
Also, the fact that multilinguals are more sensitive and responsive to their interlocutors in comparison to monolinguals.
- Documentation of language learners' interlanguage as the distinct /unique system of language displayed by learners of a foreign language as they further acquire LK. In Cook's perspective this proved that bilinguals handled different grammars than monolinguals did.
- Finally Cook stated as body of evidence the notion that L2 systems have influence on the learner's L1 systems at all stages of bilingualism.

The results provided by Cook (1991) gave perspective that opened an entire side of SLA research, by referring to multilingual speakers and learners as "multicompetent users of a language" instead of ineffective native speakers, in addition to differentiating the linguistic abilities of multilinguals from the abilities of monolinguals without invalidating them.

Dynamic Model of Multilingualism (DMM)

Other authors also count on a very similar line with Cook's (1991) multicompetence theory. Nonetheless, this alternative model to understand multilingualism from a psycholinguistic perspective refers to a parallel perception from the integration of different subsystems and models for language acquisition in

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multilingual contexts. Jessner (2008) considers that the dynamic model of

multilingualism (DMM) accounts as follows:

According to DMM, the development of a multilingual system changes over time, and is non-linear, reversible – resulting in a language attrition or loss – and complex. It is also highly variable since it depends on social, psycholinguistic and individual factors, apart from the different forms or contexts in which language takes place...The model...provides scientific means of predicting multilingual development on the basis of factors found to be involved (p. 25)

For this author, the different psycholinguistic systems interplay interdependent roles in the multilingual mind more than being in isolated lands. For Jessner (2008), a correct definition of multilingual proficiency only derives from the interplay of distinctive factors which make multilinguals different from monolinguals, this is what Jessner (2008) calls the M-factor, these factors can be, among others: cross-linguistic interactions, particular degrees and modes of metalinguistic and metacognitive awareness.

This model has, according to Herdina et al (2002) the following goals which intend to contribute to the scientific understanding of multilingual phenomena as follows:

1. To serve as a link between SLA and MR research
2. To reduce the monolingual bias of multilingual research
3. To clearly state that LA research should also deal with variants of multilingualism
4. To state that LA is a non-linear process
5. To prove how language systems are interdependent and that language development is a dynamic process.

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It is worth noticing some of the characteristics of the DMM hereby exposed.

According to Herdina et al (2002), the DMM as a psycholinguistic model treats language change on an individual level, taking the speaker as an intricate psycholinguistic system. Also, for this model, languages are in a permanent motion. This dynamism of language development is, or can be theoretically affected by personal or psychological factors which are also addressed by Herdina et al (2002). According to these authors, factors can be divided in:

1. Motivational factors
2. Perceptual factors
3. Anxiety (ANX)
4. Language acquisition process (LAP)
5. Motivation (MOT)
6. Perceived language competence (PC)
7. Self-esteem (EST)

These characteristics contribute to the comprehension of the different psychological and psycholinguistic factors that have to do with this proposal of DMM (Dynamic Model of Multilingualism). In other words, this radical model of seeing the process beneath multiple language acquisition and usage sees language users from an individual perspective within a very interplay of inner and outer factors contributing to a more complex understanding of the system in a discrete series of individual and integrative factors.

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Third language acquisition models

Although different linguistic schools and models have tried to offer solid approximations on understanding how a third language is learned, acquired, processed and affected by other previously learned languages, this document will only introduce some of the most salient ideas coming from cognitive orientations and a psycholinguistic perspective. A definition of what theoreticians and researchers consider when defining a third language is not included in this section as it has been already discussed in previous chapters. In this sense, taking those definitions into account, this chapter sets off from the idea that a third language cannot be (in many aspects) included in the so-called L2 populations. Nonetheless, it is also worth noticing that among researches the parameters to determine what a third language is are not clear yet.

Hereby, we advocate to correlate the most prevailing theories and insights on how third languages happen to take their shape and the actual effects the elements from the linguistic repertoire of the multilingual speaker have on them, more than simple hypothesis to evident empirical proposals. For instance, it is the case of L2 and L1 grammars and L3 interlanguage development. These insights have been mainly gathered from cognitive approaches, in order to maintain the focus of the research objectives. In this sense, sociolinguistic and educational approaches have not been included in this discussion. Nonetheless, it is worth noticing that due to the intervention of multiple factors such as sociocultural transfer, multiculturalism and multilingualism as the norm, to acknowledge a non-monoculturally based (and biased) approach constitutes a more dynamic approach that responds to the realities of learning multiple

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languages in the 21st century. Among the multiple factors that affect multilingualism from a macro level are: language status, sociobiographical, and psychoaffective ones (Rothman, 2013). For further information on this subarea of multilingualism, visit Wolff (2013) who addresses multilingualism from a societal perspective, here he exposes the development conditions of certain languages in Africa.

On the other hand, other scholars have advocated to tackle the issue of multilingualism from an educational perspective due to the increasing and prominent effects that education in multiple languages has nowadays in industrialized and in-development countries, such is the case of Germany in the first case or Colombia in the second. In this regards, multilingual education (an extended version of bilingual education) has been taking over in the worldwide sphere. This phenomenon can be observed in the increasing number of institutions and international cooperation efforts that have as main asset the promotion of their national languages. Besides that, immigrants (for instance in America or European countries such in Germany or France), especially children are commonly raised speaking two or three languages, or bilingual speakers learning a L3 (Jessner, 2008).

Coming back to the original goal of this section, which is to formulate the most relevant L3 approaches from a psycholinguistic perspective, it is not irresponsible to mention that one of the most salient ideas on L3 developmental theories is multicompetence as it has been exposed in the previous chapter. According to Cook “since the first language and the other language or languages are in the same mind, they must form a language supersystem at some level other than be completely isolated systems” (2003, p. 2); for further information about Cook’s multicompetence see

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chapter 4. In this sense, it cannot be said anymore that languages stay intact, separated and independent from each other but constitute a solid network of multidirectional crosslinguistic interferences: the L1 affects the L2, L3..., and the L3 (nth languages) affect (s) the L1 and L2 (Rothman, 2013), that is all the time in constant change and modification. As research has shown, languages change growing and declining as a normal process in development, thus they are not vulnerable to change (or be changed). In other words, the supersystem created along with the stages of interlanguage between the first and second language (Selinker, 1972) contributes to understand this alive phenomenon. (see chapter two for more information)

When addressing this unavoidable change in language learning, it is worth introducing the term of *end-state* within the framework of Applied Linguistics in the field of L3 acquisition. Taking the following definition of a L2 grammar end-state provided by Valenzuela (2006) which goes as follows: “a L2 end-state grammar is one that has reached the final stage in development regardless of the level of proficiency and is not necessarily a near native grammar” (p. 284), that can be extrapolated here, shedding light on the sense that it is evidently wrong that languages are seen to be in constant flux or suffering from attrition as a natural component of language development. This indicates that, the so-called situation at the successful completion of the final phase of learning a language might, actually never happen. As a result, hereby we discuss a more dynamic perspective on language development which seems to be everlasting (see Dynamic Model of Multilingualism in the previous chapter).

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Early studies on third language acquisition

The address of third language acquisition studies from a historical perspective implies the interplay of different variables and naturally a wide set of references which range from the beginnings of the twentieth century (mainly from 1950s, though) until more contemporary documents in the last decades. It is also noticeable that among the different research lines transfer/cross linguistic interference (CLI) in L3 is one of the most prominent. For such a reason, it will be the core of this section which will briefly introduce two of the most relevant variables driving research efforts in the last years.

The first variable is language status. In other words, early L3 acquisition studies got interested in deciphering whether language acquisition order (L1 & L2 or both) actually affected transfer and cross linguistic interference, in what sense and why. The discovering from studies on this aspect, such as Rivers (1979), Stedje (1977) and Vogel (1992), let us interpret that lexical transfer comes presumably first from L2. On the other hand, according to Ringbom (1987) semantic transfer might rather originate in L1. Other linguistic aspects such phonological ones are not considered here. Notwithstanding, Ringbom (2001) among others, reports that L1 transfer shows long-term effects especially in intonation. Ringbom (1987) presents and raises a set of interesting questions on this first variable. He compared two groups of L3 English learners, L1 Finnish/L2 Swedish and L1 Swedish/L2 Finnish, and found that regardless of the order of acquisition both groups transferred Swedish elements. This, for sure called out for better methodological procedures and foundational questions.

A second variable has to do with the age of acquisition and how it relates to the source of transfer. L1 transfer was considered to happen due to the experience the

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speaker has speaking it. Chumbow (1981) calls this as the 'Mother tongue effect'. On the other side of the balance, some researchers have argued that one of the reasons why L2 transfer happens is due to a conscious desire not to sound incompetent in terms of oral proficiency at the accent level, not to sound 'not-foreign' (Hammaberg, 2001).

Others have assumed a contrasting positions between L2 and L3 acquisition processes, such is the case of Stedje (1977) and Ringbom (1987). In both cases, L2 transferring effects might more easily happen when it is learned in a naturalistic way, what causes at the end a blocking of L1.

Cognitive approaches to L3 acquisition

The main reason to address language acquisition from a cognitive approach is because we understand, that it is a cognitive phenomenon more than any other thing possible. One of the most crucial points of current cognitive theories is the extent to which language acquisition is domain-specific, in other words; it is biologically predetermined from birth (Chomsky, 2007). Nonetheless, against this UG-based (Universal Grammar) approach, usage-based approaches state that language acquisition mechanisms do not follow nature but other human cognition abilities (O'Grady 2005; Tomasello 2003). By taking the second position as plausible when addressing crosslinguistic interference, it is here important to notice as well that it has to do with the extent a previously learnt language affects a L3 specially in its initial stages. In such a case, four scenarios might happen: 1) no transfer, 2) absolute L1 transfer, 3) absolute L2 transfer or 4) either L1 or L2 transfer (Herschensohn, 2013 Chapter 5). As it has been extensively stated before, the current evidence shows that there is some level of transfer from L1s and L2s to the L3, at least at the initial stages.

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This, somehow revalidates the usage-based approach principles of constant change within the languages which happens in the social medium. For further information on Universal Grammar visit Chomsky (1957) & Chomsky (1965).

L1 to L3 transfer must be taken with a grain of salt because it hasn't been systematically advanced, at least within cognitive paradigms (Rothman, 2013). In this case of L1 transfer to L3, it is stated that two distinct lines of reasoning might take place: a) the L1 as a filter, impeding access to the acquired L2 properties or b) L1 syntactic representations are only a possibility of transfer similar to the Fundamental Difference Hypothesis. According to Bley-Vroman (1989, 2009) new syntactic acquisition in any additional language is not possible by post-puberty-learners. In this sense, the 'L1 factor' according to Håkanson et al (2002), has a privileged status of morphosyntactic transfer in all cases of adult language learning due to processability reasons.

For other researchers, such in the case of Bardel (2007) and Falk (2010), a stronger role of affectation on the L3 coming from the L2 is given at least at the level of syntax, overpassing L1's. In this hypothesis called L2 Status Factor Hypothesis, they assume that L2 works as a filter to the L1 grammar. This hypothesis is particularly strong due to the fact that it creates clear predictions irrespective of language pairings.

This demonstrates that, positions are divided and it is accurate to affirm that it depends on the type of cognitive theory that is taken as basis to set up the research track in the field of L3 language acquisition and transfer.

Models of syntactic transfer to L3 at initial states

Initial stages of any kind of learning are usually (if not always) determinant. This has been for a while the conception L2 researchers have shared and extrapolated to L3

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acquisition process. Some appreciations have taken the form of models which make an effort to explain the undergoing processes L3 learners have to deal with. It is valid to indicate that there is one position (not widely accepted to be said) which is known as the “no transfer position”. Within this pseudo model, no transfer is accepted, formulated or hypothesized. It suggests that L3 language learning is the same in all cases regardless of the previously learned languages or previous linguistic experiences of the speaker in question. Though this position is the first addressed in historical and psycholinguistic articles when L3 learning models are addressed, others have been taking more relevance than this.

This section introduces some of the most salient models of L3 learning or acquisition in early stages.

Second Language Status Factor Hypothesis (L2SFH)

To be a multilingual individual implies accommodating two or more languages within the brain; it also implies that such individual must be able to access whichever language whenever needed in order to understand or convey a message. Inside the multilingual brain the languages exist not isolated from one another; but actually coexisting in that space; and, as a consequence, they interact with each other in multiple ways; one of which is during the process of acquiring a new language. From this premise numerous theories and models have been developed arguing that one of the languages must prime over the other. The counterargument for L1 primary (unique) source of transfer is L2 Status Factor Hypothesis (L2SFH) (Bardel et al 2007; Falk et al 2011). The L2 Status Factor Hypothesis argues that during the acquisition of an L3 the

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L2 shows higher relevance as a source of linguistic transfer, this transfer as a strategy to approach L3 since they hold more cognitive similarities than do L1 and L3.

The L2SFH was initially proposed by Williams (1998) in a case study regarding the learning of Swedish as an L3; the main conclusion of said study determined that the learning of other foreign languages and the now learning of a third language (L3) display several similarities on a cognitive and situational level; as opposed to the process of acquisition of an L1, therefore, making the L2 more relevant -cognitively speaking- in the midst of learning an L3. Within this divergent model, L2 serves as the only source of transfer due to its nature of non-native language. This makes L2 share a lot of similarities with subsequent L3s to be acquired. It is noticeable to indicate that L2SFH has its roots on Paradis (2004) proposals. This latter author states that languages are stored differently in the brain. Such model indicates that native languages are stored in procedural memory while acquired languages in adulthood use declarative memory.

This hypothesis was later elaborated on by Falk et al (2011), and Bardel et al (2012). They expanded this idea by explaining that the previously learnt languages (L2) are more likely to be activated and generate transference in L3 learning rather than this activation happening with the L1.

As previously mentioned, the L2SFH was first introduced by Williams in 1998, in the case study of Sarah Williams (a subject who counted with English as her native language (L1); German as a previously learnt foreign language (L2), and Swedish as target language (L3). The study aimed to examine the subject's tendencies regarding the use of previously learnt languages as "supplier languages" in oral production in the

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L3. The results showed a general tendency of activation of German (L2) through the use of code-switching, rather than resorting to using the L1. The authors regarded this constant activation of L2 over L1 as a way of suppressing the L1 due to its position as non-foreigner language (ergo, not relatable) and relying instead on “an orientation towards a prior L2 as a strategy to approach L3 (Hammarberg, 2001, pp. 36-37).

In 2007, Bardel conducted a study on negation and its relation to the finite verb (a verb that contains a subject and has an established tense) in Swedish and Dutch. The aim was to demonstrate that L2SFH could apply to syntax, and not just lexicon (as shown in aforementioned 1998 study by Hammarberg), which could potentially lead to both correct and incorrect word order in the TL. This study was carried out with Swedish and Dutch as L3, taking into account that both of these languages have post-verbal placement of the negation in the main clause. The study was implemented in two study groups: 1) which had post-verbal negation in their L1; 2) which had post-verbal negation in their L2

The results of the study concluded that study group 2) was quicker to learn the given structure in the TL than study group 1). This efficiency in the acquisition of a grammatical structure in a foreign language indicates -according to the authors- a preference of the L2 as a transfer source for the syntax in L3 rather than the L1.

Falk (2013) carried out a study on adjective placement which aimed to demonstrate that learners with higher metalinguistic knowledge on their L1 would resort to their L1 as transfer source for their L3, and not their L2. The subjects of the study were Swedish learners of Dutch as a L3. Through a metalinguistic test the differences in

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explicit metalinguistic knowledge of Swedish morphosyntax were assessed and with it to what degree did the learners exhibit transfer traceable to the L1.

The results showed that learners with low levels of metalinguistic knowledge in L1 did not transfer from L1, but rather from their L2. Learners with high levels of metalinguistic knowledge in the L1 transferred from their L1 to a higher extent. From the results of this study the conclusion was drafted that languages that are learnt formally under similar circumstances have a tendency to influence one another.

As a conclusion it can be stated that according to this model, L3 learning process is the same for learners sharing a L2, without a direct correlation to the L1. In such a case the fact that only one of the prior languages is chosen as the source of transfer also poses a possibility for non- facilitative transfer. In that sense, L2 has a privileged position for morphosyntactic transfer. Bardel et al (2007) came to the conclusion that it is the most recent language before the L3, it is the L2, blocks the incoming morphosyntactic L1 system 'even when linguistic typology and relatedness relationships exist between L1 and L3' (Rothman et al, 2011, p. 9).

Full Transfer / Full Access (FT/FA)

Second Language Acquisition (SLA) can dramatically be influenced by L1, and it can form the complete L2 grammar-acquisition state (Schwartz, 1996). Following this primary 'logical' thinking line, L3 learning is supposed then to be affected by L1 as this latter serves as the first states of L2. It is consistent with the models of Full Transfer/Full Access (Schwartz, 1996). Nonetheless, this model (s) seem (s) to present certain level of incompatibility with common sense. So, the question here is: Is only L1 what matters regardless of the combination of language factors? Amaro (2018) offers an insightful

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example of this. A native Spanish speaker learning French as a L3, with English as a L2 could (in such a given case) have a similar development to another Spanish native speaker learning English as an L3 and having French as a L2, due to the theoretical fact that L2 is supposed (within the Full Transfer/Full Access model) not to have any role. Others argue the contrary. Positions are incompatible. The main claim of Full Transfer / Full Access is that L2 learning process starts when L1 finishes. Schwartz et al (1996) put it as follows:

The entirety of L1 grammar (excluding the phonetic matrices of lexical/morphological items) is the L2 initial state...this means that the starting point of L2 acquisition is quite distinct from that of L1 acquisition: in particular, it contends all the principles and parameter values as instantiated in the L1 grammar immediately carry over as the initial state of new grammatical system on first exposure to input from the target language (TL). (p. 41)

This can be understood as a differentiation between the starting points of L1 and L2. The latter being affected per se by the former specially in grammar aspects which do not start from scratch in the mind of the learner, but it is naturally influenced by it.

Cumulative Enhancement Model (CEM)

Another model is the one proposed by Rothman (2011, 2013 and 2015) and Flynn et al (2004). According to this model, what matters for language transfer is structural similarity that both L1 and L2 have regarding L3. In other words, this model grants a conscious decision making to the speaker, if he perceives that L1 is globally closer to the L3, the transfer will come from the L1, but if the speaker perceives the same (a global connection) coming from the L2, the transfer will inevitably find its source in the L2. It is also important for Rothman (2011, 2013 and 2015) that as this

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model encompasses a complete grammar system transfer, it can be facilitative or non-facilitative. If it is not facilitative, the transfer is argued not to occur. Other voices which support this model are Berkes and Flynn (2012) and Flynn et al (2014). They affirm that any previously acquired languages can be object of transfer at any point of L3 acquisition, regardless of their order, manner or purpose of acquisition or learning. The position that CEM assumes is that transfer from previously acquired languages is only expected to be beneficial and never counterproductive for L3/Ln acquisition. This means that transfer under this model is completely selective according to specific and individual characteristics of each of the languages.

Transfer is put in the following two possible scenarios: if one language has target properties and the other one, the one which does have them will be the source of transfer, only. In the second scenario if none of the previously learned language entails a target property or set of target properties, transfer will not occur and L3 learning will occur similarly to the way L1 acquisition took place. Flynn et al (2004) proposed this model based on their research of L3 oral production of restrictive clauses L1 Kazakh / L2 Russian / L3 English speakers. The results of this research suggest that L1 and L2 transfer is cumulative and non-redundant, in other words, any previously learned language can facilitate acquisition or not all.

Typological Primacy Model or Typological Proximity Model (TPM)

Rothman (2010, 2011 and 2015) proposed a different model in which all grammars from all previously learned are available for transfer without exception. This is the case of the Typological Primacy Model also known as Typological Proximity Model or TPM. This model suggests that one of these grammars (L1 or L2) is completely

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transferred very soon in the process right after when the linguistic parser has decided which language to use. The way in which TPM interpreters how the linguistic parser chooses the language source is explained as followed. According to Puig-Mayenco et al (2020), the linguistic parser selects the languages with the highest level of typological or structural proximity. Then, this amount of structural similarities is then compared between the L1/L2 and the L3. (p. 36). Rothman (2015) suggests a hypothetical guide that serves the linguistic parsers in the selection of the elements to be transferred. They are exposed in this order: lexicon, phonology, morphology, and syntax. These linguistic levels help determining the amount of activation among the L3 and previously learned languages. It is also important to indicate that different from CEM, TPM hypothesizes that regardless of the type of transfer (facilitative or non-facilitative) transfer will inevitably take place. Non-facilitative transfer can occur due to it is based on typological proximity actual or real between languages. (Rothman et al, 2011 p. 10)

Fundamental Difference Hypothesis (FDH)

One last model that this chapter introduces is Fundamental Difference Hypothesis. This model has been extrapolated from Second Language Acquisition motivation model by Bley-Vroman (1990). This model in its origins suggest that L1 and L2 language learning are fundamentally different because younger language learners use domain-specific linguistic mechanisms while adult learners use domain-general problem-solving skills instead. In terms of L3 learning processes, FDH argues that the innate language learning system which was available when learning the L1 might not be present or simply it operates imperfectly in L3 learning, as well as in L2. This proposition is aligned with Universal Grammar theory principles by Chomsky (1975). Along with

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this, one fundamental difference here marked is that adults learning a language are equipped with a series of problem-solving mechanisms children do not have at a cognitive level. So, in the case of L3 learners, they are supposed (not in all cases) to have better knowledge of the non-native language that L2 speakers do not. Though this seems quite promising, some others are far less proficient. FDH “posits that L1 and L2 acquisition are fundamentally different because younger learners use domain-specific linguistic mechanisms, whereas older learners can only use domain-general problem-solving skills” Al-Hoorie et al (2020, p. 1). When we talk about adult and young learners we refer to the level of experience language learners have, in this case in front of a L3.

The following table introduces the main ideas of the models of multilingualism and third acquisition previously mentioned. This table is compilatory and an in-depth reading is a must in all cases.

Table 1. *Models of Multilingualism and Third Language Acquisition*

Models	Main ideas	Main authors
Multicompetence	L2 systems have influence on learners’s L1 system at all stages of ‘bilingualism’. There is a series of metalinguistic differences between monolinguals and multilingual speakers that make the latter to be more responsive to interlocutors.	Cook (1991)
Dynamic Model of Multilingualism (DMM)	The different psycholinguistic systems interplay interdependent roles in the multilingual mind more than being in isolated lands. Multilingual systems change over time and is non-linear, reversible (Jessner, 2008, p. 25)	Jessner (2008) Herdina et al (2002)
L1 Status Factor (L1SF)	L1 transfer in L3 might happen in two distinct lines: as a filter impeding access to the acquired L2 properties or L1 syntactic representations are possible to the Fundamental Difference Hypothesis. L1 has a privileged status due to morphosyntactic transfer specially in adults.	Rothman (2013) Håkanson et al (2002)
Second Language Status	L2 shows higher relevance as a source of linguistic transfer when acquiring /learning an	Williams (1998)

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Factor Hypothesis (L2SFH)	L3. L2s are more likely to be active and generate transference in L3 rather than L1s. L3 learning processes are the same for L2 learners regardless of the L1.	Falk et al (2011) Bardel et al (2012)
Full Transfer / Full Access (FT/FA)	L1 serves as the first state of L2, consequently the L3 is supposed to be affected mainly by the L1. Regardless of the combination of L1 and L2, what causes transfer is L1.	Schwartz (1996) Schwartz et al (1996)
Cumulative Enhancement Model (CEM)	All languages known by an individual influence the learning process of any subsequent language (L3/Ln). Thus, working on the assumption that there is either positive transfer or not transfer at all. In other words, any previously learned language can facilitate acquisition or not at all, if the latter is not of help in the multilingual learning process, such language remains neutral.	Flynn et al (2004) Flynn (2012) Flynn et al (2014)
Typological Primacy Model or Typological Proximity Model (TPM)	L1 or L2 is completely transferred very soon in the process right after the linguistic parser has decided which language to use as the source of transfer. TPM hypothesizes that regardless of the type of transfer (facilitative or non-facilitative) will inevitably take place.	Rothman (2011, 2012, 2015) Rothman et al (2011)
Fundamental Difference Hypothesis (FDH)	Learners of a third language are considered to 'adults' or mature learners. For that reason, they are equipped with cognitive mechanisms that help them learning further languages more easily than L1 or L2 learners.	Bley-Vroman (1990) Al-Hoorie et al (2020)

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Note: It is also important to acknowledge that a non-transfer model is argued to exist.

Nonetheless, it is not considered to be a real model.

After considering all these L3 transfer models it can be stated that all of these models diverge from each other and a middle ground cannot be found among them. Positions are sometimes contradictory each other. This, somehow nurtures further research and more solid models are needed in the field to validate or test what has

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been already said. Notwithstanding, it is clear that these models correspond to specific cognitive schools which understand, define and construe mental models of different realities, in this case concerning the acquisition of a third language and how this is affected by previously learnt/acquired languages in different scenarios and conditions.

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Conclusion

Thanks to the exhaustive revision of literature on L3 learning acquisition, transfer, interference models, multilingualism errors and interlanguage it can be said that the objectives set on the beginning of the research were successfully met. The following section introduces the set objectives and their completion.

The general objective of systematizing the phenomenon of second and first language interference on third language learning from a psycholinguistic perspective was achieved due to the fact that a considerable amount of authors and papers were referenced, commented and references, authors, models, theories and hypothesis addressed, commented and compared to conflictive ideas in the field. In this line, the specific objectives were also met. This is evident since a complete image of the concepts and theories on the field were systematically offered responding to the need for an exhaustive definition and categorization their constituent elements.

Finally, the document offers solid and comparative conclusions of the most prominent phenomena and their rationalizations in order to establish similarities and differences existing among L1, L2 and L3 learning at the metacognitive level from a historical revision of the concepts and theories. The following section introduces the conclusions the researchers drew from the literature explored.

So long as the ins and outs of the bilingual brain remain a mystery, we are unable to pinpoint with precision the ways in which multiple languages interact within the brain, we cannot then stick to a general theory that accurately encompasses the subjectivity of multilingual acquisition processes and its phenomena without incurring in conflict with opposing theories.

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There are a litany of factors that make third language syntactic interference all that more difficult to figure out (i.e., the age of the learner, the specific L1 and L2 they have, and the respective proximity of such languages to the TL, nationality of the learner, to name a few). All these circumstances make the study of third language learning more intricate than L2. It is so undeniable to state that L3 learning is comparatively more complex in several aspects due to the bigger number of factors that come to interplay in it.

The process of acquiring a first language is in many ways different from that of learning a second language, and so, the learning of a third language is as well subject of under passing distinctive cognitive and linguistic processes that can be studied from L1 and L2 learning / acquisition theories. Nonetheless, as different models and theories addressed suggest, it is beneficial to set different research parameters that correspond to the specificities of these three phenomena. However, this does not mean that some similarities cannot be found among the three of them. This last assumption yields further research in the field that can be developed thanks to the tools the L1 and L2 research offer already.

A multilingual individual possesses metacognitive tools that definitively aid in the learning process of an L3, which might be not available in the monolingual or bilingual mind, drawing a noticeable difference in how monolingual, bilingual and multilingual individuals carry out the process (es) of learning an additional language and the process they pass through. Such is the case of interlanguage and their stages and linguistic fossilization, to name a few.

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Crosslinguistic, interlinguistic and intralinguistic interference can lead to multiple types errors not only when learning a L2, but also, and more explicitly in an L3. This is simply understood due to the multiple interplay of conditions that a L2 learner does not experience, at least so often. For instance, we can argue that the level of language proficiency, the age of the learner, the language proximity do affect the rate of CLI and linguistic transfer, as do several other factors. CLI can occur and be traced to any, all or none of the previously learnt languages an individual possesses.

When it comes to talk about multilingualism it is interesting to notice that multiple positions are offered in theory. Some of them argue that, it is merely an extension of bilingualism while others make it an isolated field of study within Applied Linguistics.

Finally, it was intended to offer a set of the most relevant standpoints that try to explain and model third language acquisition hypothesis and studies according to metacognitive ideals. These models have some concurrent points which are evidently scarce. The models tend to compete among them interpreting the same phenomenon differently.

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